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Cover photo: Tibetan brown bear inside a herder's home ('camera trap')

Cover photo courtesy of Dr. Wang Dajun, Peking University.

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Editorial Policy

International Bear News welcomes articles about biology, conservation, and management of the world's eight bear species. Submissions of about 750 words are preferred, and photos, drawings, and charts are appreciated. Submissions to ibanews@bearbiology.com are preferred; otherwise, mail or fax to the address above. IBA reserves the right to accept, reject, and edit submissions.

Deadline for the May 2010 issue is 5 April 2010

Thank you to everyone who contributed to this issue. Artwork is copyrighted – do not reproduce without permission.

Membership

Use the form on **page 25** or go to www.bearbiology.com to order or renew memberships, make donations, and/or update member information.

From the President

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2010 is still young as I'm writing this. It is cold (-10° C) for Tennessee standards (they might start closing schools soon!) and snowflakes are falling ...the tranquil pace of the snowflakes lulls me into thinking that the holidays aren't over yet. Yet, we have much work to do. As you may know, 2010 is the United Nations International Year of Biodiversity, a fitting theme in a time when there are many uncertainties about the future of so many animal and plant species. Of course, in covering biodiversity, the media give much attention to charismatic species and bears have received particular coverage lately: from the many stories on polar bears and global warming to the last dancing bears in India to the illegal trade in Asiatic black bear parts.

However, some scientists argue that, for the purpose of biodiversity protection, the attention to single, charismatic species is misguided. Without going into an academic debate on this issue, I would strongly argue that the emphasis on bears, and other charismatic species, is fully justified. Bears may actually serve as keystone species in some instances (think of sloth bears digging and maintaining water holes in dry areas that are then accessible by other wildlife or the 'ecosystem engineering' of brown bears). Bears also are effective umbrella species, whose conservation depends on protection of large, natural areas that would also protect substantial biodiversity. It is this aspect of bear biology that Dan Simberloff also pointed to in a paper he presented at the IBA conference

in Gatlinburg ("Biodiversity and Bears – A Conservation Paradigm Shift"; *Ursus* 11:21-28). More than a decade later this paper remains highly relevant and I encourage you to read it. Finally, bears serve as excellent flagship species because they capture people's imagination more than most other species. Clearly, there is an important role for bears and IBA in this International Year of Biodiversity.

Membership and Strategic Plan

Establishing online membership renewal and payment was one important goal for 2009 and I am happy to report that the response so far has been beyond our expectations. We have received close to 100 new memberships and renewals, many from people who had not been a member for a number of years. This came at a critical time and I'm thankful for all who responded so quickly to our reminders. Let's keep this up!

As I have mentioned in previous columns, as an all-volunteer organization with a limited budget, we have to make changes gradually but we are making progress nonetheless. The online donation and membership pages were some important goals. Our next step is to develop a strategic plan to set more specific targets regarding our membership, improving IBA's role to help managers and researchers in the field, and enhancing our ability to raise donations for the Bear Conservation Fund so that we can fund more research and conservation projects.

Electronic Newsletter

With this being the first electronic *International Bear News*, this is a historic moment for our organization. We hope you like the changes we are implementing. We realize that some members may prefer the hardcopy format so Council opted for a hybrid format of 2 electronic newsletters (February and August) and 2 hardcopy newsletters by mail (May and November). We decided to go partially electronic for several reasons, includ-

ing cost savings, reducing the use of precious resources, and a desire to better engage you as a member in our organization.

The latter point requires some explanation. The format of this first e-newsletter is similar to the hardcopy format you are used to but our intentions for the e-newsletters are to gradually change to a more flexible, web-based format, which will allow us to shorten the time between submission and publication of articles, provide more in-depth articles, provide links to other websites and resources, and so on. We have set a goal to complete this transition by the February 2011 e-newsletter. Of course, this is *your* newsletter so please let us know what you like or dislike about the changes we are implementing and feel free to offer suggestions while we are still in this transition.

Change in Newsletter Editor

Matt Durnin decided to step down as Managing Editor of *International Bear News*. All members of the Editorial Team are volunteers and it takes a great deal of time to put together a newsletter with the quality that IBA members have become accustomed to (see also the *Berries, Nuts, and Grubs* column). Matt's job responsibilities have substantially increased since becoming Regional Science Director for Asia-Pacific/North-Asia at the Nature Conservancy. Matt, thus, felt he would not be able to give the additional time and attention required for a successful newsletter. When we established an Editorial Team for the newsletter in 2006, Matt graciously offered his time and editorial skills to lead the team and he has done so with much passion and professionalism. He can proudly look back at a job well done and we owe him many thanks for his leadership. I know he will stay involved with IBA and wish him well on his new endeavors.

We were very fortunate to find an enthusiastic new Managing Editor rather quickly: Tanya Rosen. Tanya has played a very active role

Council News

in IBA and has been a member of the Newsletter Editorial Team since 2006, which will guarantee a smooth transition. This is the first newsletter with Tanya as Managing Editor.

Keep Your Email Address Up-to-Date

If you have received our email with the link to this newsletter, the email address we have for you is obviously correct. Please make sure you notify us of any future changes in your email address, as this is the only way that we can communicate with you electronically and ensure that you receive the newsletter and other information. You can update your email anytime by clicking the "Update Email" button on the bottom of the first page.

Georgia Conference

Please start planning for what will be a great conference in Tbilisi, Georgia (16-22 May 2010). At last count, over 130 abstracts were submitted, which will allow the conference organizers to develop a strong program. Based on these

submissions, the conference schedule will be established soon and should be available on the conference website by the time you receive this newsletter.

There has been a relatively long break since the last conference and I hope this will encourage you to attend our 19th International Conference. Conference registration deadlines are coming up soon: early registration by 20 March 2010 and late registration by 20 April 2010. I look forward to seeing you in Tbilisi! 🐻

Research and Conservation Grants

Fred Dean, Committee Chair
Email: deansfs@alaska.net

We will be reviewing 28 proposals this year; the requests to IBA totaled just under \$190,000. The breakdown by species and area is shown in the table below. The new December 1st deadline seems to be working out well

for most people. There are no plans to change it.

Three of the applicants are seeking continuation funding for projects IBA funded last year. The R&C Grants Committee and others who review the proposal will be working on the review process for several weeks. Given that we do not control the financial calendars of those providing funds for grants, I do not expect much change in the timing of grant announcements. We hope to be able to announce awards by mid-March.

Once again I want to thank those grantees who have submitted progress and completion reports on the work supported by IBA. It is clear that the R&C grants program is helping to make significant bear conservation efforts possible. Watch for articles in the *International Bear News* and papers in *Ursus* that report on work funded, at least in part, by the program. Also, since some grantees have established their own Websites, computer searches for a worker's name and/or the bear species and the project topic may yield much more information. 🐻

No. of proposals in category or concerning species	SPECIES	Number Submitted							
		North America	South America	Europe, Scandinavia, western Russia	Northern Asia	Southern Asia	Southeast Asia	All Asia Combined	Other Multi-species
22	Single species	10	5		4	4	2	10	
6	Multi-species	2				3	1	4	
	Zoo (captive mgt.)							0	
28	TOTAL	12	5		4	7	3	14	
1	<i>A. melanoleuca</i>							0	
4	<i>H. malayanus</i>						3	3	
2	<i>M. ursinus</i>							0	
5	<i>T. ornatus</i>		5					0	
6	<i>U. americanus</i>	6						0	
10	<i>U. arctos</i>	3			3	3		6	
2	<i>U. maritimus</i>	2						0	
5	<i>U. thibetanus</i>					4	1	5	

NOTE: Some column "totals" will not add up due to multi-species nature of certain proposals.



Berries, Nuts n' Grubs

Food for Thoughts About Bears

A Quarterly Column by Diana Doan-Crider

This quarter's column is written in collaboration with IBA President, Frank van Manen, as we bring some important issues to your coffee table. We'd be as happy as old biologists with cell phones that have large numeric pads to entertain some of your ideas for future columns, or to hear what you have to say about the information below. Contact the Berries, Nuts n' Grubs team at diana.crider@gmail.com with your input.

From Orange Juice Cans to High Technology

Fast Changing Communication at the IBA

As I sit here, my wonderful cowboy husband is shouting on the phone with a good friend, almost as if he was talking through an orange-juice can connected to another with a piece of string. His shouting tells me that he has not yet caught up with today's quickly advancing technology, but I assure him that *really*, you can now talk in a normal voice and your friend will hear you even if he *is* far away. He still can't get over how you can talk to someone on a phone that's not connected with a piece of wire, or *something*.

One of the challenges for the IBA over its 40+ year life span has been to keep people connected. It seems like communicating and getting together used to be as simple as catching a black bear on doughnuts. We picked up an orange-juice can, wrote a letter, or drove our trucks to the coffee shop or ranger station to catch up on the local news. Somewhere, somebody saw the need to improve our mode of communication, so they invented things

like fast planes, zippier cars, E-mail, the Internet, cell phones, Blue-tooth, Wi-Fi, and networking sites to help us, *you know*, communicate better. I now have 3 different email accounts (which I can check on my cell phone while I'm driving or operating on someone), text messaging, a Facebook account, Twitter, an ftp site, and 12 online bill-pay accounts. I also belong to about 7 different list serves. To boot, I can now share my calendar with you, so not only know do I know what I am doing, but now I know what you are doing. As a result, ideas and collaborative projects have flourished like weeds after a good rainstorm, along with heavier work loads, the need to find more money, more meetings, more people to manage, more reports to write, more deadlines, and the need to learn about newer and better communication tools. *Calgon, take me away!* I want communication to help me be more *effective* – not more *exhausted!*

Hence, we get to the point. One of roles of the IBA is to equip you to do your job, with the ultimate goal of cohesion and effectiveness in taking care of the 8 species of bears on the planet. How can the IBA help you maintain connectivity to the bear-world, and help you be more *effective* - not less? How can we communicate more efficiently with our membership without creating more frenzy? As we look into the future, we see technology coming at us faster than *Lucille Ball's* chocolates on the conveyor belt. Right now, however, the timing is right to plan ahead so we can be ready to handle the demand in a simple and more effective way. I encourage you to read the information below so you can familiarize yourself with how the

IBA meets your needs; it's a little more complex than what appears on the surface.

And You Thought It Was Just a Newsletter!

The IBA has had an interesting evolution in trying to keep people connected about bears ever since the idea originated circa 1968. The IBA Newsletter, now called *International Bear News (IBN)*, has always played a pivotal role in keeping the organization cohesive. The oldest one I could find in my files was from 1982, which is when I first joined the IBA. Many of you were still fetuses. The newsletter was hand-typed, probably by the then-President, John Beecham. Somebody mis-typed "Volume 82, Number 3", but didn't want to have to re-type the whole thing over again. It was then photocopied (which was a highly advanced technological feature back then), and sent to our budding membership via snail-mail. The labels were probably also hand-typed. Older issues do exist, but I think Al LeCount keeps them locked up in a suitcase in his closet, and he charges money for us to look at them. Today's newsletter is still our primary mode of communication, and although its production has changed significantly, it still has the fingerprints of our founders impressed in its content.

Currently, the *IBN* is being produced on a quarterly basis, and sent via snail-mail to over 400 members. Additionally, 94 Bear Specialist Group members receive electronic PDF copies. In total, the newsletter reaches members in 69 countries! We have an amazing team of volunteers who, *while still managing their own*

Berries, Nuts & Grubs

jobs, oversee a production that would cost thousands of salary dollars in the corporate world. The next time you get your newsletter, remember that it's worth more than just its weight in paper and mailing costs. This is what goes on behind the scenes:

1. Submissions are encouraged from our IBA membership, and also from our regional correspondents. These correspondents send out quarterly reminders to as many folks as they can, looking for bear-related articles and updates.
2. Submissions are accepted on:
 - July 5th (August issue),
 - October 5th (November issue),
 - January 5th (February issue), and
 - April 5th (May issue).Stick to the deadlines, and nobody will get hurt.
3. Jordan Schaul, our Correspondence Editor, receives the initial submissions, and then wades through the pile and organizes it before sending it on down the line.
4. That pile then gets forwarded to Tanya Rosen, our new Managing Editor, who decides what stays and what goes, what gets changed, and in what order. Both Tanya and Jordan will spend time double-checking with our many correspondents on updating contact information, conference announcements, and letters from our President and the Bear Specialist Group Chairs. Once it's all in one semi-organized pile, they then send it on down the line.
5. Janissa Balcomb receives the huge file as she sits atop a lone mountain in Idaho, waiting to initiate the long, tedious process of layout for what normally becomes a 35+ page document. She adds her creativity to the graphic design, photographic quality, and placement of the content. Every time a new item is added or moved, she has to adjust the entire layout to make sure everything fits within the document, and doesn't leave any blank spaces. Once her draft is ready to review, the document goes back to

the editors for final edits, which she then sends on down the line.

6. Meanwhile, our ever-faithful Terry White is managing the membership and mailing list from Tennessee. She also manages purchasing for publications, membership payments, and membership dues. I have yet to understand how she is able to keep up with all of this and still make sure I pay my dues on time. Quarterly, Terry sorts the mailing list, and then sends it on down the line.
7. Jim Tomlin is the final receiving station for everything coming down the newsletter conveyor belt. Jim then gets the electronic file to the printers, picks up the paper copies, labels them, and sends them around the world in two separate batches: domestic, and international. Jim has to wrestle with the US Post Office to ensure that the IBA meets all of the requirements for bulk mailing rates, which is usually based on a minimum number of newsletters. If membership falls below a certain number, he still has to send out the minimum order or else international rates go through the roof.

Electrifying News

Currently, the *IBN* comprises about 7.5% of our annual operating costs. The *IBN* team has gone to extra lengths to ensure that the newsletter production is most cost-effective, even down to paper weight and printing quality. With changing technology and economic challenges, however, our team is always adapting to new environments. Based on what the IBA membership said in our recent survey, we will be initiating our first electronic newsletter starting with this issue. We are currently experimenting with formats to see what will work best. In doing so, this will free up funds that can be used toward improving our electronic platform so we can reach our membership in a more organized and efficient manner.

IBA Website

As you know, the IBA website has gone through some tremendous transformations in the past decade. However, in 2006, we tragically lost our web-master, Scott Risteen. Scott had offered his services as a volunteer while he worked full time for the Alaska Department of Fish and Game. Without going into detail, managing websites takes a tremendous amount of time, and I had no idea what Scott has sacrificed for the IBA until it fell on my shoulders. At that time, the website was made using "HTML language," which requires a person with training in that subject. In addition, that site was not set up for secure-site transactions. When Scott passed away, we were left with the reality of not knowing how to manage the site from the back end, and did not have any of Scott's passwords to access it. Fortunately, I had hired a company who was helping me design a new website for the Mexico IBA conference that was equipped to accept secure, online transactions. The Denver Zoo and The Nature Conservancy had kindly donated the funds, with the ultimate plan to turn the site over to the Bear Specialist group after the conference. This website was constructed using a platform called TYPO3, which was chosen because of its ability to expand and adapt to new technology, and its user-friendliness. The company designed the initial templates for all of our pages, kind of like building the main structure of a house. Once the house was built, we would have the flexibility to bring in new furniture, rearrange things, and make all kinds of adjustments with very little training. We would occasionally need to contract the company to build on a new room, or go behind the scenes to add online forms with complex security issues.

At the time, *Ursus* was also having its own set of woes on another website at www.ursusjournal.com. Scott's death caused us all to come to the table because of a crisis, but we ended up developing an efficient solution for

everyone involved. Within 2 weeks, the new website was born, and now includes the IBA, the BSG, and *Ursus* Journal. The crisis also caused us to have back-up plans, including training for more than one person, and better password management. What I like about TYPO3 is that it is very powerful and adaptable, which means that we don't have to start from scratch every time something new comes around the corner.

Even as I write this, new networking sites (such as Facebook and Ning) are almost over-riding the necessity of individual websites, offering ways for folks to post information, have personal pages, participate in discussion forums, and everything that one would dream of within their own website. That's fine, but it can sometimes detract from the original intention of a website, which is to communicate to one particular group and keep everyone under one roof. Here at the IBA, we want to be sure we stay ahead of the game by keeping your membership relevant and providing you with a website that will meet most of your professional "bear needs." Our goal is to eventually build the site so we can host discussion forums, online streaming for conferences and workshops, video conferencing, mapping projects, blogs, virtual libraries, and much more. Right now, we have several forums that are being hosted on Google Groups, but ideally, we would like to house those features under one roof. You'll be seeing changes as we gradually start buying and rearranging some new furniture.

Conferences

Nothing beats face-to-face interaction. Since its inception, the IBA has been like your friends' mom who always had all of the neighborhood kids at their house. If you were involved with bears, then you hitch-hiked, slept on floors, and ate Chuck Jonkel's old dumpster potatoes just to attend the bear meetings. Everybody went. Early on, an amazingly insightful group of biologists began establishing relationships across the seas, and the IBA became more international over the years. The IBA now has members from 69 different countries, so getting folks together from across the globe has always been a main part of our mission.

While our IBA Council has a strong international representation, we do recognize that the majority of our membership resides in North America (59%). But recent changes in the economy and security issues have changed the way we see each other face to face, both within and outside of North America. Conference costs have skyrocketed, and most conference organizers are usually only one-time hosts because they are still comatose from the last conference they hosted. Travel budgets have been hacked away to a mere stump, travel grants are getting harder to come by, and now security issues have completely changed the way we are *allowed* to see each other. Whereas we used to roam the planet somewhat freely, we now have to contend with "black-listed" countries, 6-month to 1-year waiting periods for visa approval, underwear bombs, and

quarantines when someone sneezes. In the case of Georgia, which was originally scheduled for 2009, the conference was rescheduled for 2010 because of a *war*, which I believe has made the annals of IBA history. Recently, Frank van Manen appointed a new Conference Task Force that will be chaired by Mike Vaughan. This group's mission is to evaluate and come up with suggestions regarding how the IBA will meet the conference needs for the future. While we want to do everything possible to ensure our future *face-to-face* interactions, we do need to prepare for how we will get important information to those who get rejected by immigration officials, are stuck on a plane in China, or simply don't have the money to travel.

Keeping Us Connected

Now that we've heard from the membership through our recent survey, we think we're headed in the right direction. While some of us old timers are still shouting into orange juice cans, we do have a group of young, energetic council members and volunteers that are gently making sure we keep up with new and innovative ways to effectively communicate. Membership surveys are handy, but we still want our main mode of communication to be more direct. Just pick up the closest orange-juice can, or better yet, send us an email and tell us how we're doing. ■

Hungry to Learn About Bears?
Ursus is now at
[www.bearbiology.com!](http://www.bearbiology.com)

Ursus is the official journal of the IBA



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Symposium on Asiatic Black Bears Hosted in Taiwan

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Co-chairs Asiatic Black Bear
Expert Team

An International Symposium on Conservation of the Asiatic Black Bear was held in Taipei, Taiwan, 17-21 November 2009. Smaller regional meetings regarding this species have been convened in the past, but this was the first to include representatives from most of the species' range.

Initially, Taiwan's Endemic Species Research Institute (ESRI) conceived of this as an international meeting to exchange information about raising and possibly releasing native Asiatic black bears (ABBs), born in captivity. After some discussion, the scope of the meeting evolved into a much broader symposium, which was supported by the ESRI, Forestry Bureau (Council of Agriculture), Yushan National Park, Taipei Zoo, National Taiwan Normal University, and National Pingtung University of Science and Technology. Aside from host country scientists, speakers were invited from Russia, Japan, Korea (not able to attend), China, Laos, Cambodia, Vietnam, Thailand, Myanmar, Bangladesh (not able to attend), India, and USA. Nearly all of the invited speakers were members of the BSG's Asiatic Black Bear Expert Team.

The symposium included 2 keynote presentations and 30 oral presentations in 5 major topical areas: ecology;

physiology & ethology; distribution & population monitoring; phylogeny & genetics; human-bear conflicts; and conservation & management. The symposium also included 19 poster presentations. The symposium was attended by 290 wildlife biologists, university professors and students, national park and zoo professionals, governmental officers, and NGO representatives.

Following 2 days of formal presentations, all of the speakers and many of the conference participants took part in a 3-day field trip, terminating in Yushan National Park in central Taiwan, the site of the only intensive bear study in this country. Not only did the field trip engage participants in the sights and culture of Taiwan (including the indigenous culture), but it also included 2 workshops, which



were conducted at stops en route: population monitoring (held at the ESRI headquarters); and the role of captive bear facilities in long-term conservation (held at the Low Altitude Experiment Station of Endemic Species).

Some of the notable points raised during the formal presentations included:

- Tree-borne fruits and nuts are the major components of the diet throughout the range of this species. Insects and mammals tend to be fairly low in dietary composition in most areas, but not insignificant. In some areas black bears have been found to scavenge kills of

other predators. While most dietary studies still rely on scat composition, some studies have employed stable isotope analysis to distinguish the contribution of anthropogenic foods, like garbage and corn.

- Acorns are a key resource driving seasonal and annual changes in distribution, habitat use, and social relationships of ABBs in many parts of their range. Bears compete for acorns not only with each other, but also with various other species of wildlife, such as birds, squirrels, deer and wild boar. Oak forests with consistent bear use often show tell-tale signs of broken branches. Acorn production is highly variable year to year; high production one year generally causes low production the next. Climatic variables also affect acorn production, although models are not refined enough to predict production in a given year.
- ABBs hibernate in the northern parts of their geographic range as well as high-altitude areas in some southern regions. In these areas, accumulation of body fat prior to hibernation may be critical for reproduction. However, even in regions where bears do not hibernate, they seek out high-fat foods during fall. Pregnant females may regularly hibernate: captive females that gave birth seldom left dens for 2 or more months. Estradiol concentration levels indicated that ABBs in subtropical areas were monoestrous, with the mating season during March-May.
- Monitoring methods employed to study this species include: sign surveys (mainly claw marks on fruit trees); interviews with local people; camera trapping; hair trapping; and sightings. Presently, local people provide the best information on trends in bear numbers, recent extirpations, or recent reoccupations, because long-term data sets on bear presence or abundance are rare. Some of the best data sets now are being generated from tiger

Bear Specialist Group



Artistry from Symposium abstracts (drawn by Shu-Fen Huang, Endemic Species Research Institute)

monitoring programs (e.g., camera trapping), where bear data are also being recorded incidentally. Some efforts are underway to distinguish individual ABBs in camera trap photos by their chest marking (akin to what is being done with tigers), but more commonly these photos are used only to differentiate black bears from sun bears, and generate an index of relative abundance. Kill statistics are routinely used to assess status of brown bears (e.g., Hokkaido, Russia), but are less commonly employed for black bears (which are legally harvested only in Japan and Russia).

- Telemetry studies have occurred in 6 of the range countries (Russia, Korea, China, Japan, Taiwan and India). Some new studies are employing GPS and ARGOS technology to track long-distance seasonal movements and changes in habitat use. GPS collars have revealed much larger home ranges than previously estimated from VHF collars. One GPS-collared 4-year-old male moved more than 70 km straight-line in a month.
- Several distinct genetic clades of black bears have been recognized,

which in some cases match subspecies designations. Examples include the Formosan (*Ursus t. formosanus*), Japanese (*U. t. japonicus*) and Russian Far East-Korean (*U. t. ussuricus*) clades.

- Increasing incidents of human-black bear conflicts are being reported in several countries, especially involving crop damage and attacks on people. The most notable surges have occurred in Japan, where bear numbers and distribution are expanding (due to human depopulation of rural areas), despite rather extensive legal exploitation (hunting and nuisance killing). In the most dramatic episode (2006), >4,300 bears were killed and >100 people injured by bears, due largely to a widespread natural food (mast) shortage. More regular attacks on people have been reported in India, probably due to diminishing forest area and bears' greater consequent exploitation of crop fields and livestock. Some fencing programs (for small crop fields) have shown promise in alleviating such conflicts.
- In Southeast Asia, the ranges of black bears and sun bears broadly overlap, and the 2 species are sympatric not only within many protected areas, but also within forest patches. Their diet and habitat use appear to be very similar, but poachers seem able to target one species (typically black bears) over the other.
- Poaching ABBs for parts is a major concern in many countries, driven largely by an active trade with China. Few other countries report active poaching and use of bear products by local people. In Taiwan,

a chronic level of bear hunting occurs, mainly as non-target captures (by-catch) in snares intended for ungulates. This, combined with restrictive habitat availability, likely limits growth of the Formosan black bear population.

- Bear farming appears to be growing throughout Southeast Asia (e.g., new farms in Myanmar and Laos), motivated by demands from China. Additionally, an active trade occurs with live bears. Hundreds of captive black bears have been confiscated (either intercepted from traders, or raised as pets), and are now being kept in bear sanctuaries established in several of the Southeast Asian countries, mainly by NGOs. The numbers held in sanctuaries are getting so large that active discussions are taking place about "best practices" for caring for them in preparation for ultimately releasing some back to the wild. One recent attempt to do so in Laos failed because a wild female with cubs killed the released orphan cub.
- The conservation status of Asiatic black bears in Southeast Asia appears grave—the result of the commercial trade in live and dead bears mentioned above. Though there has been no formal attempt to estimate population size, relative abundance of black bears, inferred from camera trap encounters from many sites, seems very low. For example, in the largest camera trapping effort to date in the region (10,000s of trap nights across 3 large protected areas in Lao PDR), fewer than 10 photos of black bears were obtained.

At the close of the symposium, participants were asked to respond to 2 questions about conservation threats and actions. The number of responses favoring each answer was tallied, and the answers ranked from highest to lowest:

1. What are the main conservation threats to Asiatic black bears?

Bear Specialist Group

Threats	Rank
Trade in bear parts driving illegal hunting	1
Habitat degradation/ loss	2*
Human-bear conflicts	3
Lack of public awareness	4
Lack of political and administrative support	5
Lack of scientific information	6
Bear farming	7

* nearly the same number of votes as trade in bear parts

2. What are the key actions for conserving Asiatic black bears?

Conservation actions	Rank
Change behavior through education	1
Strengthen collaboration and networking (agency, academia, NGO, local people, stakeholders)	2
Enhance protection & law enforcement	3
Increase long-term monitoring efforts to assess population trend	4
Ban the bear trade	5
Increase scientific research	6
Quick responses to reducing conflicts	7
Linkage between in-situ and ex-situ efforts	8
Dedicated funding sources	9

Finally, participants were asked to list some key points that they learned from the symposium. These are listed below in the order that they were mentioned:

- Bears in SE Asia are suffering a dramatic decline due to the bear trade and bear farming
- Human-bear conflicts are a growing problem within most of the range
- Wide variation exists in methods and extent of effort directed at monitoring bear populations

- International collaboration among wildlife biologists is relatively high
- New genetic advancements are insightful
- Large disparities exist among countries in amount of knowledge and research on bears
- Bears can be used as a model species for other conservation concerns in Asia
- More bear-related work is being done in SE Asia than previously thought
- Great deal of innovation on new projects
- High dedication of biologists
- Need for continued emphasis on ex-situ conservation

The 2 workshops, held during the field trip, each sought to move beyond discussion toward further action.

Workshop I *Monitoring methods and approaches for threatened Asiatic black bears*

Chaired by Dave Garshelis & Rob Steinmetz

This workshop focused on monitoring population trend, not on popula-

tion estimation, which is unfeasible for this species in most areas. The workshop began with a demonstration of a scat-sniffing dog (trained and used on a project directed by Mei-hsiu Hwang). In the first half of the workshop, various monitoring schemes were discussed and compared in terms of effort, potential biases, precision, and adaptability to various circumstances. Many participants have been involved in conservation projects dedicated to protecting and monitoring threatened species other than bears. Thus, the second half of the workshop was a discussion of possibilities for incorporating black bears in monitoring efforts that are currently being implemented or are being planned for other species. This led to the main product of the workshop, the initiation of a *bear monitoring network* (see following story).

Workshop II *Role of captive holdings in bear conservation in Taiwan*

Chaired by John Beecham

Workshop participants considered and discussed how best to use the bears currently held in captivity at the



Training the next generation of ABB researchers and conservationists: graduate students involved in studies of Asiatic black bears who attended the Symposium and workshops.

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Endangered Species Research Institute (ESRI). Presently, 42 ABBs are being held in captivity in Taiwan (18 in public zoos; 9 at ESRI; 3 at rescue centers, and 3 in private collections); most are >10 years old. Little is known about the genetic purity of these individuals with respect to subspecies *U. t. formosanus*. Three options were identified as potential uses for the 9 bears held in captivity at the ESRI:

- Science-based research focusing on nutrition, reproductive ecology, disease issues, or basic physiology of a subspecies of ABB that does not hibernate.
- Educational efforts including public viewing, filming bear behaviors, producing informational pamphlets and other materials for schools and national parks.
- Developing a breeding program designed to produce cubs for eventual release into the wild to augment the existing wild population.

Workshop participants supported all 3 of these potential programs. There was unanimous support for developing a captive-breeding program at ESRI to produce genetically-pure *U. t. formosanus* to augment the wild population. The purpose of the releases would be to increase numbers of wild bears in under-utilized areas, and to buffer human-caused mortality. The assumptions of this strategy are that (a) existing bear habitat in Taiwan is not fully occupied and (b) with augmentation, the wild population can surpass a threshold where natural reproduction exceeds losses from illegal hunting, enabling the population to grow.

For further information about the Symposium and downloadable abstracts of presentations, please visit the Symposium website:

<http://tve.npust.edu.tw:8080/project/meibear/English/research/Econtent.html>

Creation of a Monitoring Network for Asiatic Black Bears

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Conservation projects in Asia specifically focused on Asiatic black bears (ABBs) are rare compared with projects devoted to other highly-imperiled megafauna: e.g., tigers, rhinos, elephants, giant pandas. This is due, in part, to the more charismatic appeal of those species, a much higher level of available funding, well-developed species-specific monitoring methods, and a perceived higher degree of urgency. A host of investigators across Asia have been monitoring changes in abundance of these large

mammal species, typically relying on sign, camera-trap photographs, and interviews with local people. As with these other large mammals, ABBs leave easily-recognizable sign, such as claw marks on tree trunks and broken branches in the canopy. They are also readily identified by local people, and commonly photographed in camera traps set for other species. Thus, there seems to be great potential for including ABBs in ongoing monitoring efforts.

One option is to try to standardize all the various monitoring efforts to produce comparable results across the range. While seemingly ideal, this is not practical. Instead, we hope to encourage biologists to collect information on bears within the bounds of the various sorts of surveys already being conducted. Although monitoring methods naturally differ from project to project, temporal trends in bear populations can be observed by application of a consistent method over time within each individual monitoring site. The concurrent conservation activities carried out by these same projects, such as patrolling, and community outreach, should also benefit bears; thus, this initiative provides the



Participants of monitoring workshop at Endemic Species Research Institute, Taiwan

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Demonstration of scat-detecting dog

opportunity to assess the effectiveness of various conservation actions on the status of bears.

Our objective is to coordinate the collection and use of data from various conservation monitoring efforts, covering a wide area of the range of the ABB, in order to draw conclusions about trends in bear populations. We refer to this coordinated effort as a *bear monitoring network*.

As part of the 2009 International Symposium on Conservation of the Asiatic Black Bear (see preceding article), we conducted a workshop on population monitoring, with the following aims:

1. To recognize factors that can confound inferences about population trends of ABBs from monitoring programs; and
2. To initiate a network of ongoing and upcoming field projects with a monitoring component that can provide information about population trends of ABBs.

Impetus for the creation of this network stemmed from the dismal situation now facing tigers. Coordinated tiger monitoring has been

initiated throughout their range, but in many places it is too little or too late – tigers have disappeared or nearly disappeared from many areas, often without the notice of local officials, because rigorous monitoring efforts had not been instituted before

their rapid decline. Our goal is to avert a similar situation with bears. Moreover, we hope to save as many “pieces of the pie” as possible: viewing the bear range as a living organism, the aim is to prevent any of the parts from sickening and dying – the parts being defined as all the countries and eco-regions occupied by bears.

Monitoring in all countries and eco-regions (>80) occupied by ABBs is an unrealistic goal; instead, we propose to ensure that monitoring occurs in a collection of “benchmark” areas representing distinct portions of this species’ range:

- Representative benchmark: a site representative of typical ABB range (within a certain geographic zone);
- High-density benchmark: a site representative of an area of especially high bear density (e.g., seasonal aggregation);
- Threatened benchmark: a site where ABB numbers are known to be low and declining (deteriorating habitat conditions or increased human exploitation);



Members of the Asiatic Black Bear Expert Team attending the symposium and monitoring workshop. Front row, left to right: Koji Yamazaki, Mei-hsiu Hwang, Fang Liu, Dave Garshelis, Chanthavy Vongkhamheng. Back row, left to right: Ying Wang, Wen Wang, Ivan Seryodkin, Toru Oi, Bill McShea, Saw Htun, Rob Steinmetz, S. Sathyakumar.

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Monitoring acorn production in a high-density ABB benchmark area in central Taiwan. Bear density in this area fluctuates directly with availability of certain types of acorns.

- Recovering benchmark: a site where ABB numbers were low but are increasing (improving habitat conditions or reduced human exploitation);
- Edge benchmark: a site near the edge of the current range; and
- Reconnaissance area: a site where surveys are needed to assess whether bears occur.

As a start to the monitoring network, participants of the workshop who have been or will be involved in any sort of monitoring program that includes or could include Asiatic black bears filled out a worksheet with in-

formation about the surveys in which they are or will be involved. We plan to post the full worksheet on the BSG website in the near future to encourage expansion of the network.

The table below summarizes the composition of the monitoring network so far.

Anyone who is actively involved, or plans to become involved in mammal surveys within the range of Asiatic black bears (or sun bears, as the ranges of these 2 species overlap extensively), and willing to join the monitoring network (or for more information about the network), please contact either of the coordinators above. 📧

No. of countries	6
No. of investigators	8
No. of distinct projects	9 ongoing, 2 just started, 3 upcoming
Project duration	3– 10+ years
Frequency of surveys	monthly – every 3 years
No. people involved per survey	2–50
Survey methods (no. of projects; some with multiple methods)	sign (13), cameras (8), interviews (6), hair traps (3), scat dogs (3), threats (1)
Scale of individual survey	5–250,000 km ²
Benchmark type (no. of projects)	Representative (7), High density (3), Threatened (2), Recovering (0), Edge (0), Recon (2)

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Eurasia

Trial Use of Electric Fencing to Prevent Intrusions by Tibetan Brown Bear

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Introduction

The recent rapid increase of human-wildlife conflict (HWC) on the Qinghai-Tibetan Plateau – particularly

between local herders and Tibetan brown bear, *Ursus arctos pruinosus* – already has been reported by Foggin (2002), Tsering (2008), Willms et al. (2006), Worthy & Foggin (2008) and others.

According to local herders, one of the most likely reasons for increased conflict with brown bear is a reduction in its prey species, most notably plateau pika (*Ochotona curzoniae*) due to a recent, multi-year, large-scale pika eradication policy (Hao 2008). Around 70 percent of the brown bear diet is comprised of pika (Xu et al. 2006). Even partial removal of pika from the grassland ecosystem would likely have serious impact on brown bear, leading to a forced shift in diet intake. Brown bear may thus have begun to search more widely for alternative sources of food, including entry into local herd-



House destroyed by Tibetan brown bear

ers' homes. Numerous other species also are affected by eradication of plateau pika, a keystone species of the plateau (Smith & Foggin 1999).

An alternative reason why conflict with brown bear may have increased over the past few years is that they have increased in number, a possibility consistent with the removal of guns from herders around the turn of the millennium. Yet another reason for increased conflict could be that brown bear have learned and adapted their



Window broken by Tibetan brown bear

behavior over the past decade or so, taking advantage of the occasional but significant food returns that can be obtained by breaking into herders' homes, i.e. 'warehouses' that did not exist before the government began to subsidize construction of winter homes (Foggin 2008).

However, all three of these hypotheses still lack sufficient data to properly assess and select between them. Other possibilities may also exist that have exacerbated the problem.

We have noted that HWC in southwest Qinghai Province has increased most dramatically since circa summer 2007 – before then, relatively few instances of bear intrusions into the homes of local herders were noted. In order to maintain the support of local communities for wildlife conservation – as well as to assist with socio-economic development, through mitigation of financial losses incurred by the destructive activity of the brown bear – we set out in 2006 to determine how best to assist

herders with regard to this emerging conflict. In December 2008 and April 2009, we installed on a trial basis, solar-powered electric fencing (SPEF) at two sites (homes) in Zhiduo County.

One of the two trials undertaken failed due to inadequate training on the proper installation and use of the new SPEF technology. However the second trial was extremely successful, due

mainly to joint installation and regular monitoring of the fence by one of the authors (JR). We now plan to expand the number of trials, and to test several additional SPEF products, in 2010.

The homes under consideration are single story buildings, between 50-80 m² in area, with walls made from mud bricks, with metal or wood doors



Wall broken by Tibetan brown bear

and window frames, and with roofs made of wooden beams, straw sheeting, plastic sheeting and dirt. Nearly all the bear intrusions to date have occurred when homes were empty – with the herders pasturing their livestock in distant alpine grasslands, living in tents away from their permanent winter homes. Food is sometimes but not always stored in these homes, which may be an attractant to the bears. When a bear raid occurs, damage inflicted may include the breaking down of doors, windows and walls, as well as the destruction of furniture, stove, utensils, etc. The economic cost of such attacks has been estimated by local herders between 500 and 5,000 Chinese yuan (CNY), with an average around 1,000 CNY per incident. Annual average losses incurred due to bear attacks may amount to 10,000 CNY or higher, a large proportion of herders' available income (1 USD is approximately 7 CNY)

Method Used

The equipment used in the successful trial was the Zareba SP10B, which is a 10-mile range, low impedance solar powered electric fence controller. The key product specifications are: 0.33 stored joules, 0.15 joule output, 6 volt, 10 amp battery, pulsed DC output (1-sec intervals) (see <http://www.zarebasystems.com>). The electric fence was installed with powered wires alternating with neutral (grounded) wires, up to a height of 1.5 metres, thus blocking the front side of the house only. The power in the electrified lines was between 5,000 and 8,000 Volts.

Results

Prior to installation of the SPEF system on 13 May 2009, Bazhuo (i.e., owner of the house at trial site) had already had his house broken into on two occasions in late April 2009. However, after installation of the system, no further entries or attempted entries were made while the system remained in place – for 4 months in total. In



Workshop with local herders and nature reserve field staff on use and installation of solar-powered electric fencing (SPEF) and camera traps, 28 October 2009

contrast, during the same period, another house around 30 metres away was damaged by brown bear on at least two separate occasions. Likewise, according to the village leader, all 26 families in the village who had moved with their livestock to their summer pastures, leaving their homes unattended, also had their property damaged by bear while they were away (the village is comprised of 58 families in total). Damage to herders' homes by brown bear occurred throughout the village area between April and October 2009, with the exception of the trial home protected by electric fencing.

Discussion

Preliminary results have shown SPEF technology to be a potentially viable solution to help mitigate the observed recent increase in HWC with Tibetan brown bear in Zhiduo County and neighboring counties, i.e. throughout the source areas (headwaters) of the Yangtze and Mekong Rivers and HWC in general in the Tibetan plateau region. Other mitigation options, including non-electric fences, had been tried by local communities in the project area as well as northwest Sichuan Province

(Worthy & Foggin 2008) and northern Tibet Autonomous Region (Tsering et al. 2006) – but most local attempts had failed. Several other methods have already been tried but with limited success.; solar-powered electric fencing (SPEF) is more portable and versatile, and could be extended to address other HWC issues as well. It could also be used for a variety of livestock management purposes.

The entire trial SPEF system cost approx. 5,000 CNY (including purchase cost plus shipping from the manufacturer in Minnesota, USA). This amount was not considered too expensive by most herders, based on their own cost-benefit analyses; the main challenge they expressed was the amount of funds needed at the outset, i.e. initial purchase cost. If most materials were purchased locally (e.g., posts, wire, insulation, etc.) and only the charger imported, then SPEF systems could become even more affordable and accessible to Tibetan herders.

We welcome and encourage feedback from readers, especially with specific advice or recommendations for future work. Many thanks are extended in advance for such assistance.

Acknowledgements

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Trial installation of solar-powered electric fencing (SPEF) technology in Lari Village, Zhiduo County, in 2009

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Bornean Sun Bear Conservation Centre in Malaysian Borneo

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Introduction

The Bornean Sun Bear Conservation Centre (BSBCC) is a new facility being developed in Sandakan city, Sabah, Malaysian Borneo. In Sabah, these bears continue to be threatened by forest degradation and habitat loss, illegal hunting for bear parts and to protect crops, and poaching to obtain young cubs for the pet trade. As a result of these threats, there are over thirty young sun bears currently living in unnatural captive conditions throughout Sabah, with no access to outdoor areas. The goal of the new BSBCC is to promote Malayan sun bear conservation by (1) creating the capacity to confiscate, rehabilitate and release suitable orphaned and ex-captive bears back into the wild; (2) providing an improved long-term living environment for captive bears that cannot be released; and (3) educating the public and raising awareness about this little known species through visitor programs, outreach and support for further research.

Project Background

The BSBCC was established as a Malaysian NGO in 2008. The first stage of the project is to build a bear rescue facility to house and rehabilitate rescued bears in their natural habitat. This Centre will be located directly adjacent to the world-renowned Sepilok Orang Utan Rehabilitation Centre (SOURC), on land donated by Sabah Wildlife Department and several hectares of adjacent forest donated by the Sabah Forestry Department. The BSBCC will contain

large forest enclosures in existing primary forest in order to provide a natural environment better suited to



the needs and welfare of the bears and to facilitate the rehabilitation, training and return of individuals to the wild. The Centre also aims to provide critical outreach, information and educational materials about the sun bear to promote knowledge and awareness of this little known species locally, regionally and internationally, and serve as a base for continued sun bear research in Sabah. Once the Centre is up and running, a reintroduction facility will be set up in a protected forest area to allow soft-release of suitable rehabilitated bears back into the wild.

The construction of the BSBCC facility has been broken up into three phases to expedite completion of at least one new bear house and outdoor area. Phase I is the construction of a 20-bear house and fenced enclosures. Phase II is the renovation of the existing bear building to include office space, a visitor center, and quarantine and kitchen area, refurbishment of boardwalks, and construction of a viewing platform and educational exhibits. Phase III is the construction of a second bear house and fencing for 16 additional bears.

Project Status

BSBCC took over operations and care for 11 captive bears living in the existing indoor rescue facility on the BSBCC site in early 2009. Staff provide focused enrichment to relieve stress and boredom and to begin teaching important sun bear skills. Three indoor play/exercise areas were created and filled with enrichment items to mimic the bears' natural habitat, including woods, logs, a rock pool, a water tank, dried leaves, and

decayed wood with termites. Staff also provide various food items as incentives for exploring all the enrichment items and to help encourage basic skills such as foraging, digging and climbing. In May 2009, one additional bear was rescued and moved to the existing facility, making a total of 12 bears under BSBCC care.

Full funding was secured for Phase I design and construction in late 2008, and construction began with an official ground-breaking in July 2009. The ceremony was attended by the

Directors of the Sabah Forestry and Wildlife Departments and the Sabah Minister of Tourism, Culture and the Environment.

Construction has progressed smoothly and on schedule, with a final completion date of February 2010. The bears will be transferred into the new facility in early March. It is anticipated that additional bears living in the most dire conditions will be confiscated and moved into the new facility shortly thereafter. Once the bears have settled in and adjusted

to the forest enclosures and fencing, more intensive rehabilitation evaluations and efforts will begin.

BSBCC is now fundraising for Phase II and once full funding is achieved, renovation of the old bear house into a visitor facility, kitchen and quarantine area, as well as construction of a viewing platform and educational exhibits, will begin. Once Phase II is completed, the facility will be ready to open to the public and begin on-site education and awareness programs. ■

Americas

The 3rd International Bear-People Conflicts Workshop

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The 3rd International Bear-People Conflicts Workshop was held in Canmore, Alberta from 15-17 November 2009. The workshop was followed by an additional 1-day polar bear-human conflicts workshop co-sponsored by World Wildlife Fund and Polar Bears International. The previous conflict workshops were held in 1987 at Yellowknife and in 1997 at Canmore.

Workshop sessions offered brief remarks by experts followed by discussions. The sessions included Bear Behavior, Bear-Human Conflicts Updates, Managing Bears, Managing People, Attractant Management, Education and Training, Deterrent and Detection Tools, Community-based programs, and Risk and Liability. There were also two evening sessions: Pepper Spray and Firearms, and Diversionary Feeding. Participants remarked about the high number of innovations in both tools and management in all areas of conflict management. If funds permit, we are also hoping to provide written summaries

of the workshop presentations and discussions.

When our small organizing committee started planning for this in Fall 2008, we worried about getting enough people to cover the cost of the facilities. Our fears were unjustified and over 170 people attended, even though many interested people couldn't get agency permission or funding for travel. It was encouraging and impressive that many people felt it was important enough to pay their own way. There appears to be a growing need for bear conflicts managers to share their experiences and learn successful approaches.

Now that the workshop is over, the bear-human conflicts community needs to find better ways to network and share information between these infrequent meetings. When asked about priority actions, participants expressed a desire for a professional forum for bear conflict managers and to develop a set of training standards. Some of us will be working on these tasks in the coming year.

The amount of work that goes into putting on these meetings is never fully appreciated until they are over. Hal Morrison and Sandra MacDougall have shouldered most of the burden and they deserve special thanks. They and the rest of the organizing committee were exhausted but very pleased with the results of the work-

shop. The tireless professionals and volunteers devoted to conflict reduction are truly inspiring.

If you were unable to attend and want more information on the workshop, future networking or developing training standards, you can contact me. ■

Northwest Arctic Bear Safety Initiative

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Responding to concerns from residents in the village of Noatak, Alaska (adjacent to Cape Krusenstern National Monument and Noatak National Preserve), the National Park Service will install electric fencing around fish drying racks in 2010 to help reduce bear-human conflicts. Recommendations from others regarding fencing supplies and manufacturers, using net fencing or rigid panels on rubber mats with a gravel substrate, success with D-cell battery operated chargers or newer solar units under the midnight sun, and programs to involve students would be appreciated. ■

Captive Bears

Call For Collaboration on Study on the Evolutionary Biology of Mammalian Milks and Placentation

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This is a call for research collaboration to obtain milk, embryos or uterine wash samples from bears for a study on the evolutionary biology of mammalian milks and placentation.

Dr. Malcolm Kennedy of Glasgow University, Scotland, has been investigating milks of other species from a functional and evolutionary perspec-

tive. The focus of these studies is proteins that are important in physiologic functions such as immune protection and micronutrient transport. Dr. Kennedy is commencing a study on giant panda milk, with the aim to elucidate the nature of, and changes in, proteins through the course of lactation. As the panda is a somewhat unusual ursid in its nutritional physiology and in the extraordinarily altricial nature of its young, it would be highly interesting to compare milk of other ursids with that of the panda in the same context. Moreover, given the altricial nature of bears, and that much of lactation for certain species occurs while the mothers are denned, the composition of, and changes in, milk proteins through lactation must be complex and fascinating. To our knowledge, this topic has not been explored.

Dr. Kennedy also studies placentation, with a focus on proteins that may be essential to differentiation signals and nutrition of the embryo. In particular, he and colleagues are characterizing a protein known as uterocalin, which may play a critical

role for embryonic support in species with a prolonged pre-implantation period. Given their unique reproductive physiology, this would be highly interesting to investigate in bears, and may help us understand factors in early pregnancy that regulate reproduction in certain bear species.

The challenge for research, of course, is that of obtaining samples while minimizing risks to the health and welfare of the bears. For the milk study, it would be ideal to collect a series of samples representative of different stages of lactation. Given the logistical and welfare challenges presented by this and by the placentation research, any samples that can be obtained opportunistically would be welcome.

Please let us know if you or colleagues might be able to assist in obtaining samples from wild or captive bears (any species), and we will be happy to send a more detailed research proposal.

Thank you very much for your consideration. ■

Student Forum

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Ryo received his Masters and is continuing his Ph.D. at the University of Florida studying Asiatic black bears (*Ursus thibetanus*) in Japan. I met him recently when he and Dr. Gouhe Ueda, with the Japanese Ministry of the Environment in Hyogo prefecture, met with me and several other biologists and media specialists

from the Florida Fish and Wildlife Conservation Commission to discuss bear management and nuisance wildlife issues. The Asiatic black bear is categorized as a Vulnerable Species by the IUCN and international trade is managed under CITES. However, according to the Japanese Ministry of the Environment 4,340 black bears were captured (and most killed) in 2006 because of nuisance activities or to control population numbers. This may represent as much as 29-43% of the Japanese black bear population. About 150-200 black bears are left in the north region of Hyogo and they are listed as an "Endangered Local Population" in the Red Data Book of the Ministry of Environment.

Ryo is researching the social dimensions of managing the black bear population in the north region of Hyogo prefecture. For the last decade, sightings of bears as well as agricultural damage by bears have been increasing in Hyogo, and 5 people were injured by bear attacks in the last six years. Increases in damage and human casualties caused by bears contribute to negative attitudes people have toward bears and bear conservation. The objectives of Ryo's research are 1) to understand public knowledge and attitudes toward bear conservation and management interventions, and 2) to increase residents' knowledge and awareness of black bears, and to enhance their responsive behavior to prevent human-bear conflicts.



This summer, Ryo will conduct a mail survey in 4 towns in the north region of Hyogo to understand residents' knowledge of and attitudes toward black bears, as well as their concerns about having bears around. Questionnaires will be sent to 500 residents, randomly selected from telephone directories, in each of the 4 towns. Ryo believes that the results will help him understand residents' perspectives and needs and prepare a message accordingly for the outreach campaign.

The outreach campaign will be designed and conducted from May 2011 for half a year in two "treatment towns" where he will have completed the survey. Using the towns' postal system, he will distribute to all households fliers that explain characteristics of bears as well as tips to prevent bear problems. The flier will be distributed every two months, explaining different aspects of information about bear facts and tips. Also, 100 posters will be posted on windows of shops and restaurants and 5 signboards will be erected on the main streets in two treatment towns. Posters and signboards contain the information of how to prevent bear encounters and bear problems. Also, residential workshops will be held every two months inviting all residents in the two towns. Black bear researchers will present the information about bears

and provide tips to mitigate human-bear conflicts, as well as answering all questions that residents have regarding bears.

After the outreach campaign ends in October 2011, Ryo will conduct a second mail survey to 500 randomly-selected residents from each of the 4 towns (two treatment towns and two control towns) in order to evaluate the effect of the outreach program. He will

measure how much residents' knowledge, attitudes, and behavior changed after the program. I wish him the best success, and hope that what he learns about outreach campaign messages and residents' attitudes of living with nuisance bears will be useful for other species of bears and perhaps other large carnivores that have conflicts with humans. 🐾

IBA Volunteer Program

Marci Johnson
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The IBA is offering a service to connect bear research and management programs with students who seek specific skills to apply to their own projects. Examples of these valuable experiences include capture and handling, aerial telemetry, database management, laboratory or data analysis, project design, bear aversion techniques, or outreach. If you are running a project and can provide an opportunity to share your knowledge and skills with a student, or a student who would like to develop a skill on an established project, please contact me. 🐾

Truman's List Serve

- For students only
- Discussions pertaining to bear biology, management, or study design challenges
- Assistance with proposals and study design through IBA professionals
- Job searches, announcements, information regarding the IBA and student membership
- Planning for IBA student activities and meetings
- IBA membership is *encouraged*, but not required, for initial sign-up

**If You're
a Student,
YOU
Need to
Sign Up
NOW!**

Instructions

- Visit:
www.bearbiology.com/iba/stu.html
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- Do NOT reply to list serve messages using your "reply" button. You must return to Truman and respond within the list serve or else other members will not receive your response.
- If you're a new member, please submit a paragraph about your project and include your contact information so we can all get to know you. 🐾

Bears in Culture

Bear, Beorn, Shapechanger, Berserker, Tardigrade

Anne Ruggles
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"Beorn, he is called. He is a skin-changer. . . . sometimes he is a huge black bear, sometimes he is a great strong black-haired man with huge arms and a great beard. . . . He keeps hives and hives of great fierce bees, and lives most on cream and honey. . . . As a bear he ranges far and wide."

This is how Gandalf the Grey Wizard described *Beorn*, chieftain of a clan of northern men (the Beornings) to the Hobbit Bilbo Baggins and the thirteen Dwarves with whom he was traveling in J. R. R. Tolkien's book *The Hobbit*.

Later, in the tale, Beorn takes part in the Battle of the Five Armies: *"He came alone, and in bear's shape; and he seemed to have grown almost to giant-size in his wrath. The roar of his voice was like drums; and he tossed wolves and goblins from his path like straws and feathers. He fell upon their rear and broke like a clap of thunder through the ring. . . . when he returned to the battle after removing a wounded dwarf lord, his wrath was redoubled, so that nothing could withstand him, and no weapon seemed to bite upon him."*

Bears have been an integral part of folklore and myth around the world throughout human history. They have captured human's attention because of the similarity of shape between humans and bears, their miraculous resurrection from "the dead" each spring, the devotion of mother bears to their cubs, and because we fear them. No matter the reason, humans have symbolically recognized and honored their connection to the natural world by invoking bears and portraying them in heroic or mythical form. Tolkien has done no less.

Tolkien, famously, drew on his academic foundations in linguistics

and history to describe the people of Middle Earth. Many of the races he describes have close parallels to people who once inhabited northern Europe. Cities and castles he describes have counterparts in ancient Europe. Cultures of Middle Earth shadow those of long-ago Europe. It stands to reason that he would, like story-tellers of many cultures, recognize the affinities of humans and bears and merge the two.

Beorn is a man who changes into a bear and when necessary assumes a bear's "rage." But Tolkien only hints at his origins – Beorn may be a human who has the power to shape-shift, or he may have descended from bears – and was equally as ambiguous in naming him. The etymology of Beorn's name is intriguing in that the Old English word meant 'bear', but evolved to mean 'warrior' echoing Beorn's ability to transform from a bear to a man. It was also an Anglo-Saxon poetic word meaning both man and warrior/chieftain, which could be seen as a foreshadowing of Beorn's role as the chieftain of the Beornings. The Old English meaning also relates to the bear's love of honey as *Beorn* contains *béo*, meaning 'bee'. Looking further north, in Old Norse *bjorn* was a man with the attributes of a bear and is related to the Norse name *Björn* which, in turn, may suggest a connection to berserkers.

The term berserker comes from the Norse *berserkr*, literally a "bear shirt" or "bare shirt," alluding either to wearing the "clothes" of a bear, i.e. to be bear-like in rage and strength, usually in battle, or to the habit of berserkers going into battle unarmed, or often, completely naked. Although some scholars also state that they went into battle clad only in bear skins or wolf skins. Some northern European sagas suggest that berserkers were shapechangers – taking the shape and the strength of the bear. Consequently, some berserks assumed a bear name, one with *björn* or *biörn* in it. Like Beorn at the Battle of the Five Armies, Berserkers were mighty

in battle; blades and weapons glanced off them, and they seemed to feel no pain.

Whomever he was, Beorn was a being of great strength, fiery temper, and suspicious nature, an apt description of a bear.

Afterthought

Tolkien likely gave his character a name that invoked the bear-like qualities that he manifested. In an interesting homage, an extinct form of Tardigrade (the waterbears or "slow walkers" because their "walk" is reminiscent of a bear's walk) from western Canada has been given its own genus, *Beorn leggi* (the genus named by Kenneth Cooper after the character Beorn from *The Hobbit* and the species named after his student William M. Legg) – a real organism named in honor of an imaginary creature that it resembled, that was named for a real organism whose qualities that creature invoked.

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Ursus News

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Beginning January 1, 2010, authors submitting new manuscripts submitted to *Ursus* should do so at our new (and improved!) manuscript tracking website, <http://www.edmgr.com/ursus/>. For the past few years, we have used Allentrack software to manage our editorial process. In fall 2009, Allen Press offered *Ursus* the opportunity to switch to PeerTrack, which we have now customized for *Ursus*. We think authors, reviewers, and editors will find this new system an improvement. The new system is also likely to be better financially for the IBA. Authors of manuscripts previously submitted to *Ursus* through the Allentrack system should continue to use it for those papers. 📧

Recent Bear Literature

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Karanth, K. K., Nichols, J. D.; Hines, J. E., Karanth, K. Ullas and Christensen, N. L. 2009. Patterns and determinants of mammal species occurrence in India, *Journal of Applied Ecology*, 46(6):1189-1200

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Zeyl, E., Aars, J., Ehrich, D., Bachmann, L. and Wiig, Ø. 2009. The mating system of polar bears: a genetic approach, *Canadian Journal of Zoology* 87(12):1195-1209 📧

Russian Conservation News Fall 2009 Issue

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Since 1994, *Russian Conservation News (RCN)* has been the only English language magazine dedicated to the wilderness areas of Northern Eurasia – unique natural habitats of global significance for preserving biodiversity and addressing climate change. Our Fall 2009 issue is our first truly bilingual one, with articles in both Russian



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and English. Each article features a summary and a vocabulary list to help students of both languages. Articles featured in this issue include: solutions that communities in Russia and Alaska have found to protect polar bears; a joint project tracking endangered fish owls in the Russian Far East; and a high school exchange between students from Chukotka and Anchorage.

To download a copy of the newsletter visit www.americancouncils.org/rcnListPublic.php 📧

Events

20th Eastern Black Bear Workshop

1-14 May 2011

Hendersonville, North Carolina

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The 20th Eastern Black Bear Workshop (EBBW) will be hosted in May 2011 by the North Carolina Wildlife Resources Commission

(NCWRC). The workshop will be held at the Kanuga Conference Center, Hendersonville, (www.kanuga.org), in Western North Carolina, near the Nantahala National Forest, the Blue Ridge Parkway and the Great Smoky Mountains National Park.

The 20th EBBW will be a working session designed for biologists involved with bear population management and monitoring. The agenda has not been finalized, but due to the interest in the theme of the canceled 2009 EBBW in Minnesota, we plan on having similar sessions focused on approaches to using harvest and research data to discern population trends and geographic patterns. A recent survey of state bear biologists showed a variety of techniques utilized to estimate bear populations; the 20th EBBW will explore these various methods and newer modeling approaches.

There will be working sessions, a poster session and a limited oral paper session. The poster and limited oral paper session are open to anyone wishing to submit an abstract. Abstracts should be 250 –500 words in length and can address any aspect of bear biology or management. Please submit abstracts to the conference organizers by 15 February 2011, and indicate your preference for poster or oral presentation. Slots for oral presentations will be very limited, with priority given to completed research, development of new techniques, and/or findings of broad significance.

We would also like to plan a half-day meeting for members of the SEAFWA Black Bear Committee.

Watch for details in upcoming issues of the *International Bear News* and at www.bearbiology.com. ■



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IBA Member Application, page 2

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Asiatic Black Bear **	years			Life History			
Andean Bear **	years			Management			
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Bears in Culture				Mentoring / Training *			
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Bylaws *				Nominations *			
Brown Bear **	years			Nuisance / Damage Management			
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⑩ term expires 2010

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